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Plan Area Profile

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PALCO's existing ownership and the Plan Area for this SYP/HCP is located in southern Humboldt County, California. The general characteristics of the Plan Area lands are described below, in the context of the watershed assessment areas (WAAs) delineated for the Plan. A list of planning watersheds within and adjacent to the WAAs and a description of lands within a one-mile radius of the Plan Area also are included.

A. General Characteristics of the Plan Area and WAAs

Humboldt Bay (WAA 1)

Assuming completion of the land transactions under the Headwaters Agreement (see Volume VI), approximately 38,777 acres of the Plan Area are within WAA 1. These lands are primarily late seral forest with some mid-successional and open and young forests; redwood and Douglas-fir are the dominant tree species.

The WAA as a whole includes approximately 128,600 acres. It was delineated by identifying streams that flow directly into Humboldt Bay, encompassing the geographic watershed boundaries of Jacoby Creek, Freshwater Creek, Elk River, Salmon Creek, and Humboldt Bay. On average, the area is closer to the ocean and is generally cooler and damper than the other WAAs. The western portion of the Humboldt Bay WAA is primarily rangeland, urban/suburban development, and the commercial timberlands of other companies. Most of the original harvesting in the WAA was clearcutting and took place between 1920 and 1970.

Yager (WAA 2)

Approximately 84,554 acres of the Plan Area are within WAA 2. These lands are primarily open and young forest, with some late seral and mid-successional areas.

The Yager WAA as a whole includes approximately 84,600 acres in an area that is slightly more inland and warmer in climate than the other WAAs. The WAA was delineated to follow the geographic boundaries of the Yager Creek watershed from its headwaters to a point approximately 3 miles above its confluence with the Van Duzen River. (The lower three miles of Yager Creek are included in the Van Duzen WAA). It was defined as a separate WAA (rather than combined with the Van Duzen WAA) to allow for a focused analysis of the aquatic resources in this specific area. Yager and Lawrence creeks are the major drainages in the WAA. Yager Creek generally flows east-west; Lawrence runs north-south. Lawrence Creek is the largest of several tributaries to Yager Creek; it extends through the PALCO ownership for several miles but has its headwaters off the ownership to the east.

Timber harvesting has occurred in the WAA since the 1940s. Small commerical timber operations and other privately-held lands constitute more than one-half of all lands in the WAA, and grazing is a primary land use on the rangelands in private ownership.

Van Duzen (WAA 3)

Approximately 55,341 acres of the Plan Area are within WAA 3. These lands are primarily mid-successional and open and young forests, with some late seral areas.

WAA 3 as a whole is the smallest of the five delineated WAAs, encompassing approximately 55,300 acres. It was delineated to follow the geographic boundaries of the Van Duzen River watershed from a point 3 miles above the confluence with the Eel River and extending eastward about 22 miles. Both Yager Creek (except for approximately the last three miles) and the headwaters of the Van Duzen are excluded from the WAA. The portion of the Van Duzen River that crosses PALCO's ownership is located upstream from the confluence with Cummings Creek to approximately 2.5 miles upstream of the confluence with Grizzly Creek.

Land uses in this WAA include grazing, agriculture, residential development, and commercial timber production. Most logging occurred in the 1950s and 1960s.

Eel (WAA 4)

Approximately 75,457 acres of the Plan Area are within WAA 4. These lands are primarily late seral forest, with some open and young forest and mid-successional forest. PALCO lands constitute only a small part of the overall WAA, but there are more PALCO lands in this area than in any other WAA.

The Eel WAA is the largest and most diverse of the WAAs, encompassing approximately 426,000 acres. It was delineated to include the numerous small watersheds in the southern portion of PALCO's ownership that terminate in the Eel River, which is the third largest river in California. Boundaries of the WAA follow the Eel River watershed but exclude the headwaters of the Eel and the Van Duzen drainage.

Other privately-held lands constitute about two-thirds of the WAA. There also are approximately 63,700 acres of parks and government land in the WAA, including Humboldt Redwoods State Park. In the stream assessments conducted for the Plan, three watersheds in the park were selected as reference streams to allow for comparison of conditions in areas managed for timber production and unlogged, protected areas in the park. The three reference watersheds are Squaw Creek, Canoe Creek, and Cow Creek. Other lands in the WAA are primarily categorized as residential, state park/recreation, rangeland, and timber production.

Bear-Mattole (WAA 5)

Approximately 34,528 acres of the Plan Area are in WAA 5. These lands primarily are hardwood with some late seral forest; they are actively managed for cattle grazing as well as timber production.

The Bear-Mattole WAA is the second largest WAA and includes approximately 304,700 acres. It differs from the other WAAs in that it is hotter and drier with very little fog influence. Douglas-fir is the dominant species; there is almost no redwood; and significant hardwood stands. The WAA was delineated to encompass the watersheds of the Bear and Mattole rivers, both of which flow directly into the Pacific Ocean.

About two-thirds of the WAA is in the "other private" category, and land uses in the WAA include grazing, agriculture, residential development, and timber production.

Other Lands (WAA 6)

Other Lands include those portions of PALCO's ownership outside the five delineated WAAs. Presently, these lands include approximately 3,900 acres, most of which are located just east of the northern ownership in the Humboldt Bay WAA in the Butler Valley and the Laqua Buttes hydrologic units. In the future, any new land acquired that does not fall within one of the five established WAAs will also be added to WAA 6. Because this land constitutes such a small portion of the ownership and because they represent such a small portion of the hydrologic units in which they are located, existing conditions are not detailed here. However, the provisions of the Plan will apply to these lands.

B. Planning Watersheds within and Adjacent to WAAs

Planning Watersheds within WAAs*				
Humboldt Bay	**Yager**	**Van Duzen**	**Eel**	**Bear-Mattole**
Elk River	**Lawrence Creek**	**Van Duzen**	**Eel Delta**	**Bear River**
Elkhead	Bell Creek	Cummings	Alton	Beer Bottle
Lower Elk River	Booths Run	Grizzly Creek	Centerville	Davis Creek
Scout Camp	Lawrence Creek	Hely Creek	Dean Creek	Happy Valley
South Fork Elk River	Shaw Creek	Hydesville	Ferndale	Lower Bear River
Turkey Foot	Side 8	Root Creek	Howe Creek	Neil Gulch
Freshwater Creek	**Lower Yager**	Stevens Creek	Loleta	Peaked Creek
Bracut	Camp	Swans Flat	Newberg	South Fork Bear
Camp 12	Yager Creek		Palmer	West Side Creek
Eddysville	**Middle Yager**		Rice Ranch	**North Fork Mattole**
Freshwater Creek	Bald Jessie		**Giants Avenue**	Apple Tree
Jacoby Creek	Humphrey		Dean Creek	Joel Flat
Lower Jacoby Creek	**North Yager**		Fox Camp	Long Ridge
Upper Jacoby Creek	Butte		Garberville	Rainbow
Salmon Creek	Coyote Valley		Leggett Creek	**Upper North Fork Mattole**
Gas Wells	Fort Baker		Miranda	Rattlesnake Creek
Salmon Creek	North Fork Yager		Myers Flat	Tent City
Upper Salmon Creek			Ohman Creek	
			Panther Gap	
			Rocky Glen Creek	
			South Fork Salmon	
			Upper Salmon Creek	
			Weott	
			Whittemore Grove	
			Larabee Creek	
			Blocksburg	
			Boulder	
			Larabee	
			McMahan Creek	
			Thurman Creek	
			Lower Eel	
			Pepperwood	
			Red Crest	
			Scotia	
			Stafford	
			Sequoia	
			Alder Point	
			Brock Creek	
			Conley Creek	
			Eel Rock	
			Line Gulch	
			Lower South Dobbyn	
			McCann	
			Mud Creek	
			North Dobbyn	
			Soda Creek	
			Steelhead Creek	
			Upper South Dobbyn	
			White House	
			Whitlow	
			Willow Draw Creek	

Planning Watersheds Adjacent to WAAs*

Mad River

- Armstrong Creek
- Barry Creek
- Barry Ridge
- Bear Creek
- Blue Slide Creek
- Boulder Creek
- Bug Creek
- Butler Valley
- Canyon Creek
- Deep Hollow Creek
- Deer Creek
- Denman Creek
- East Creek
- Edgar Creek
- Goodman Prairie
- Graham Creek
- Hastings Creek
- Hetten Creek
- Holm Creek
- Hutchery Creek
- Long Prairie Creek
- Lost Creek
- Maple Creek
- Maple Creek
- Mill Creek
- Morgan Creek
- Mother Creek
- North Fork Mad
- Norton Creek
- Olmstead Creek
- Olsen Creek
- Owl Creek
- Pilot Creek
- Pollock Creek
- Poweres Creek
- Showers Creek
- South Fork Mad
- Squaw Creek
- Strawberry Creek
- Tompkins Creek
- Upper Canyon Creek
- Warren Creek
- Wilson Creek

Mattole River

- Big Creek
- Big Finely Creek
- Blue Slide Creek
- Bridge Creek
- Camp Mattole
- Cooskie Creek
- Cow Pasture Open'g
- Dry Creek
- Eubank Creek
- Gitchell Creek
- Honeydew Creek
- Mattole Canyon
- McGinnis Creek
- McNutt Creek
- North Fork Bear
- Petrolia
- Punta Gorda
- Shenanigan Ridge
- Shipman Creek
- Sholes Creek
- South Fork Bear
- Squaw Creek
- Thompson Creek
- Van Ness Creek
- Westland Creek
- Whale Gulch
- Woods Creek

* Organized into hydrologic units (shown in bold); Other Lands (WAA 6) not included.

C. Adjacent Lands

As provided under the Implementation Agreement (IA) in Volume VI, adjacent lands and inholdings acquired by PALCO will be covered by the Plan if they are within a one-mile radius of PALCO's ownership and are young-growth forests. The rationale for this provision is based on what is known about the soils, topography, climate, vegetation types, streams, and wildlife communities on the adjacent lands.

PALCO is actively involved in the acquisition of timberland and, to a limited extent, disposition of property within the Plan Area. The timberland transaction program is concentrated in areas immediately adjacent to the Plan Area. The objective of the program is to purchase young growth timberland assets that have an excellent strategic fit with the Plan Area. PALCO's geographic information system (GIS) contains a wealth of information on timberland properties within one mile of Plan Area boundaries. In addition to its GIS data, PALCO has other information concerning the lands that is on file at its forestry office in Scotia, California. Readily available information concerning the adjacent lands is summarized below. Map 4 in Volume 5 shows adjacent timberlands within one mile of the ownership.

Most of the adjacent land and inholdings that potentially could be offered for sale to PALCO is owned by a mix of large and small private landowners (see Map 2). The best acquisition opportunities lie to the east and west of the Plan Area. Along the east edge of the Plan Area, Simpson Timber Company and Sierra Pacific Industries own large tracts. Other landowners on the east edge are ranchers and small, private timberland owners. Along the west edge of the Plan Area, Simpson Timber Company owns the largest timberland tracts. Over the last three years, PALCO has acquired several parcels that are close to the one-mile radius. These parcels are now part of the Plan Area.

The Plan Area and adjacent lands share a large number of hydrologic units (see Map 3). PALCO foresters have learned a great deal about the conditions within these shared hydrologic units as a result of preparing Timber Harvesting Plans (THPs). Depending on the site-specific considerations the forester must address, information regarding adjacent timberlands is often included within a THP.

Map 3 also shows Class I watercourses and the larger Class II watercourses for the Plan Area and adjacent lands. PALCO has studied many of these streams within the Plan Area and is well aware of their characteristics with respect to water quality including water temperature, large woody debris, and canopy cover. Many of the Class I watercourses have been surveyed using the CDFG stream assessment (see Map 16) and these data are readily available for analysis by PALCO biologists. In addition, PALCO biologists are well aware of the distribution of fish species for the Plan Area and adjacent lands as shown on Map 19.

PALCO enlisted the help of consulting wildlife biologists beginning in 1988, and has maintained an active Wildlife Department on staff since 1992. This group has studied a broad range of terrestrial wildlife species that occur within and adjacent to the Plan Area. For example, the PALCO ownership and surroundings have been surveyed for northern spotted owls since 1988. PALCO biologists have shared much of their data and knowledge with other wildlife experts in the region. PALCO biologists, in turn, have access to a wealth of wildlife data contained in the California Natural Diversity Data Base which covers the Plan Area and beyond. Much of this data is on file at PALCO's forestry office in Scotia and has been used in the preparation of THPs. The wintering bald eagle foraging areas, shown on Map 31, were produced from these data.

Parent materials for much of the Plan Area and adjacent lands are shown on Map 9. Franciscan Sedimentary, the Wildcat Group, and the Yager Formation parent materials dominate in the area of interest. The soil types for the Plan Area are shown on Map 10 and it can readily be seen that

Hugo and Larabee soils are the most important types. This map was derived from the soil-vegetation maps produced by the California Cooperative Soil-Vegetation Survey. These soil-vegetation maps, for both the Plan Area and for lands within one mile, are on file at PALCO's forestry office in Scotia. Inspection of these maps reveals that the soils for the Plan Area and Buffer are quite similar. In general, these are very productive forest soils that have formed, for the most part, under very similar conditions. It would be very difficult to argue that the important soil forming factors (e.g., parent material, climate, biological communities, and topography) differ in any significant way at the Plan Area boundary.

Timber production has been the primary use of the timberlands in the Plan Area and within one mile since the turn of the century. In many ways, the timber types on adjacent lands are identical to the types found in the Plan Area. An analysis of the soil-vegetation maps (mentioned above), aerial photos (on file at PALCO's forestry office in Scotia), and other publicly available vegetation type maps (e.g., the Wildlife-Habitat Relationships maps produced by the Timberland Task Force) lead to this determination.